



*Project Manager
Combined Arms Tactical Trainers*

*Advance Program
Briefing to Industry*

*Kevin S. Noonan
Project Manager*





Project Manager Combined Arms Tactical Trainers



Mission

Acquire, Field, and Life Cycle Manage the Virtual Synthetic Environment and Training Aids, Devices, Simulators, and Simulations (TADSS) to Support Individual, Institutional, and Collective Training Requirements for the Objective Force.



PM CATT Organization



**Project Manager
CATT
COL Kevin S. Noonan**

**United Kingdom
Ministry of Defence
Liaison Officer**

**Assistant
Project Manager
Close Combat
Tactical Trainer
(APM CCTT)**



**Assistant
Project Manager
Special Operations
Forces Training Systems
(APM STS)**



**Product Manager
Air and Command
Tactical Trainers
(PM ACTT)**



**Product Manager
Ground Combat
Tactical Trainers
(PM GCTT)**





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PM CATT Focus Areas



- **Interoperability Design and Solutions**
- **Visual Systems - Smaller, Faster, Cheaper**
 - **Helmet Mounted Display Technologies**
- **Embedded Technologies and Concepts**
- **Semi-Automated Force Capabilities**
- **Rapid Database Generation and Updating**
- **Cross-Domain, Multi-Service and Joint Solutions**



--- Additional Information --- Project Discussion Opportunities



**Purpose: Provide Forum For Additional Discussion
And Responses to Areas of Specific Interest**

**Location: PEO STRI/Research Commons; Room 4072
For Attendance Contact: Jane Knapp, (407)
384-3601**

When: Friday, 13 June 2003; Times as Indicated

APM CCTT	0800-0900	APM STS	0900-1000
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PM ACTT	1000-1100	PM GCTT	1100-1200
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Contracting Opportunities - Program Outline -



APM CCTT - MAJ Lee Dunlap, APM, Soldier CATT

- Soldier – Combined Arms Tactical Trainer**
- Close Combat Tactical Trainer (CCTT)**
- Synthetic Environment (SE) Core**

APM STS - Tom Smith, APM STS, (Acting)

- Special Operations Forces Air Ground Interface Simulator (SAGIS)**
- MH-47G/MH-60M Combat Mission Simulator (CMS)**
- Light Assault/Attack Reconfigurable (LASAR) CMS**



Contracting Opportunities - Program Outline -



PM GCTT - LTC Joe Giunta, Product Manager

- Common Driver Training Systems (CDTS)**
 - Virtual Emergency Response Training System (VERTS)**
 - Basic Electronic Maintenance Trainer (BEMT)**
-

PM ACTT - Jean Burmester, DPM ACTT (Acting)

- Additional Blackhawk Flight Simulators (ABHFS)**
- AH-64 Combat Mission Simulator Follow-on Procurement**
- SATCOM Principles Transformation Trainer (SPTT)**
- Advanced Morse Mission Trainer (AMMT)**
- Aviation Combined Arms Tactical Trainer (AVCATT-A)**



PM CATT



Contracting Opportunities



Assistant Project Manager (APM) Close Combat Tactical Trainer (CCTT)



Mission: Provide Focused Management of the Close Combat Tactical Trainer (CCTT) Program To Meet Program Cost, Schedule, and Performance Requirements and to Produce a Reusable Synthetic Environment For Future CATT and Other Virtual Training Systems.



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



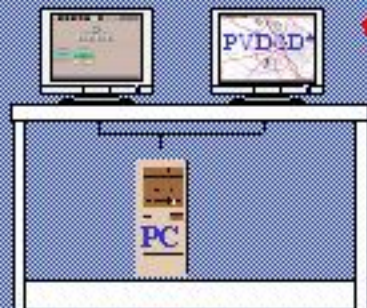
Soldier-CATT will provide a dismount-centric, combined arms, collective training capability to prepare soldiers and leaders to fight effectively throughout the full spectrum of military operations in the Contemporary Operating Environment and in urban/complex terrain.



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Semi-Automated Forces Workstations



Soldier-Leader Simulator "Virtual Warrior"



Reconfigurable Vehicle Simulators



Gunner positions added for MGS and AT GM



Live Battalion/Squadron TOC

Terrain Databases

- ✓ Kosovo
- ✓ Central Germany
- ✓ NT C
- ✓ Ft Flood
- ✓ Korea
- ✓ Grafingfeld
- ✓ Ft Riley (funded)
- ✓ (Terrain DBs already available in CATT)
- Urban Operations
- SBCT Forward Stations
- JRTC
- Infantry, Ranger, SOF
- Mountain Warfare
- Caspian Sea

Multifunctional Reconfigurable Workstations



Master Control Console/ AAR Workstations

3-D VISUALIZATION



Exercise
Initialization Files

Rapid Structured
Offsite Scenario
Development

Exercise Development



CITT+

*CITT+ Commander's Integrated Training Tool



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Description/Requirement

What We Have

Prototype Virtual Warrior

**Prototype Reconfigurable
Desktop**

What We Need

**Immersive, Combined Arms
Virtual Environment**

**Complex MOUT
Representation**

**Interoperability with Other
Simulation Systems**

**Portable, Self-Contained
System**



Soldier - Combined Arms Tactical Trainer (Soldier CATT)



Acquisition Strategy

- **Development with Production Follow-On**
- **Unique Solicitation Requirements**
 - **Reuse of OneSAF & Virtual Databases**
 - **Integration of Land Warrior**
 - **Portable system; No fixed facilities**
 - **Interoperability (Live, Virtual, & Constructive)**
- **Potential Component Breakout**
- **Leverage and integrate efforts of other virtual training systems**

Contract: TBD

Value: > \$200M

RFP: 4QFY05

CA: 1QFY06



Close Combat Tactical Trainer



CCTT is the first member of the Combined Arms Tactical Trainer (CATT) family of virtual, distributed interactive simulations (DIS) for collective training. It supports the training of Armor, Mechanized Infantry, and Cavalry units from platoon through battalion/squadron echelon, including the staff.



Close Combat Tactical Trainer



Description/Requirement

What We Have

Fixed and Mobile CCTT Sites

Operational System in
Production And Support

What We Need

Updated Image Generator
System (STOC Competition
On-Going)

Weapon System Concurrency

Reconfigurable HMMWV

Live and Constructive
Connectivity



Close Combat Tactical Trainer



Acquisition Strategy

- CCTT Production Contract (LMIS)
 - E-DIMM, Enhanced AAR, Digitization
- CCTT Image Generator Upgrade
 - RFP released April 03
 - Award planned NLT Jan 04
- CCTT Interface to Air Force Simulations
- Live-Virtual-Constructive Simulation Interoperability
- Reconfigurable HMMWV to Support Variant Configurations
- Software Support (GSA/8A Set-Aside)
 - RFP: 1QFY04; Award: 2QFY04

Contract: STOC

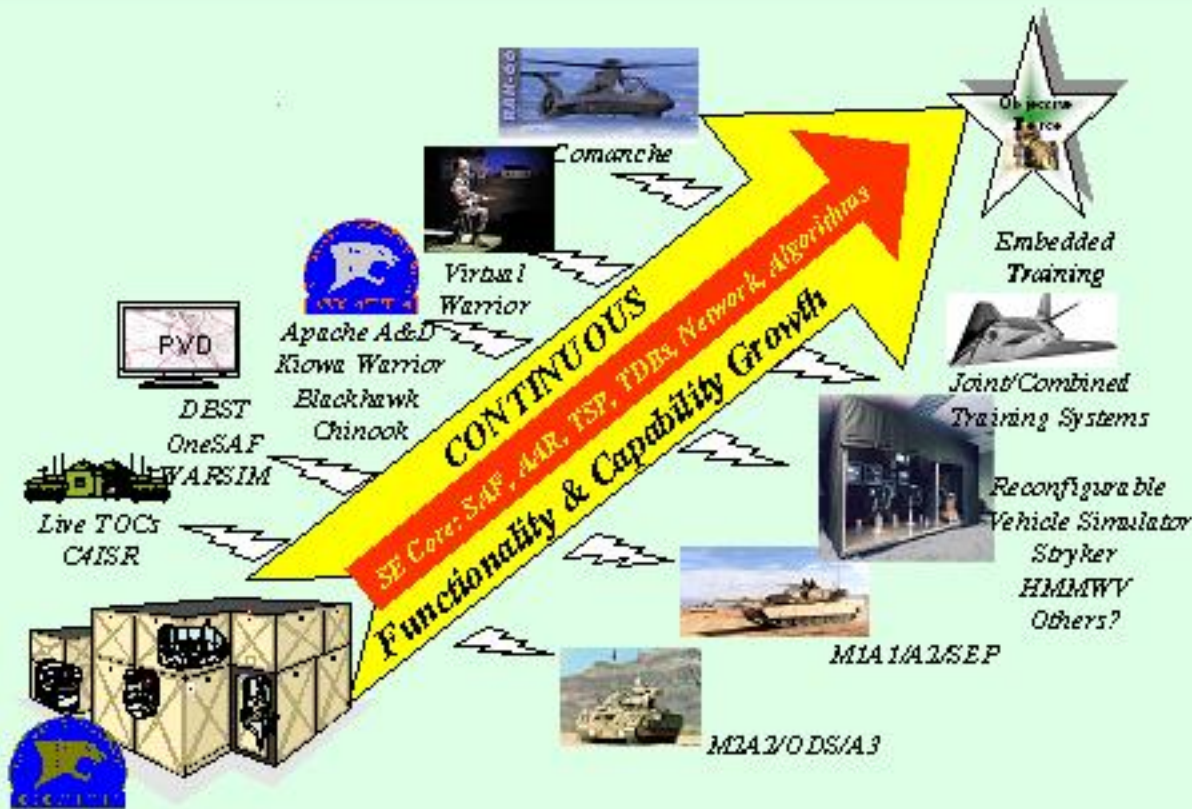
Value: > \$200M

RFP: Multiple

**CA: Multiple
Awards**



Synthetic Environment (SE) Core



Enables the Army's Common Virtual Environment (CVE) to link virtual training simulations into an integrated and interoperable training system with fair fight capability for Legacy, Interim, and Objective Forces; enables linkage of the CVE to the live and constructive environments.



Synthetic Environment (SE) Core



Description/Requirement

What We Have

**CATT family of Virtual
Simulation Databases**

**CATT family of Virtual
Training Support Packages**

What We Need

**Integration of OneSAF into All
Virtual Simulations**

**Common, Rapid Terrain Database
Generation Process**

**Common TSPs for Virtual
Training**

**Interoperability With Live and
Constructive Simulations**



Synthetic Environment (SE) Core



Acquisition Strategy

FY05 – STOC Contracts

- **Common Database Generation Process**
- **OneSAF Integration into Virtual Sims**
- **Cross Domain Interoperability**
- **Common Training Support Packages**

FY06 – STOC Contracts

- **Long Haul Connectivity**
- **Fidelity Improvements**
- **Integrated Digital After Action Review**

Contract: STOC

Value: \$120M

RFP: Multiple

CA: Multiple



Assistant Project Manager SOF Training Systems



**Develop, Field, and Sustain High Quality
Virtual Training Devices for
Special Operations Forces that Meet
or Exceed our Warfighters' Requirements.**





Special Operations Forces Air Ground Interface Simulator (SAGIS)



Training capabilities for CAS, call for fire, terminal attack control, forward observation, air traffic control and support battlefield air interdiction missions in both conventional and tactical environments, including mission rehearsal.



Special Operations Forces Air Ground Interface Simulator (SAGIS)



Description/Requirement

What We Have:

Currently there is no simulator which meets the requirements defined within the USSOCOM approved Joint Operational Requirements Document (JORD) dated OCT 2002

What We Need:

A training solution which provides the SOF Warfighter with the required fidelity to perform Close Air Support (CAS) from multiple services and delivery platforms.

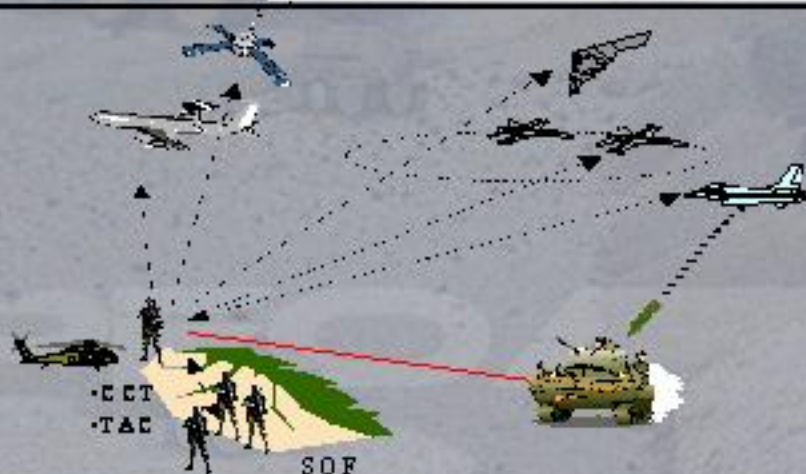


----- SAGIS -----

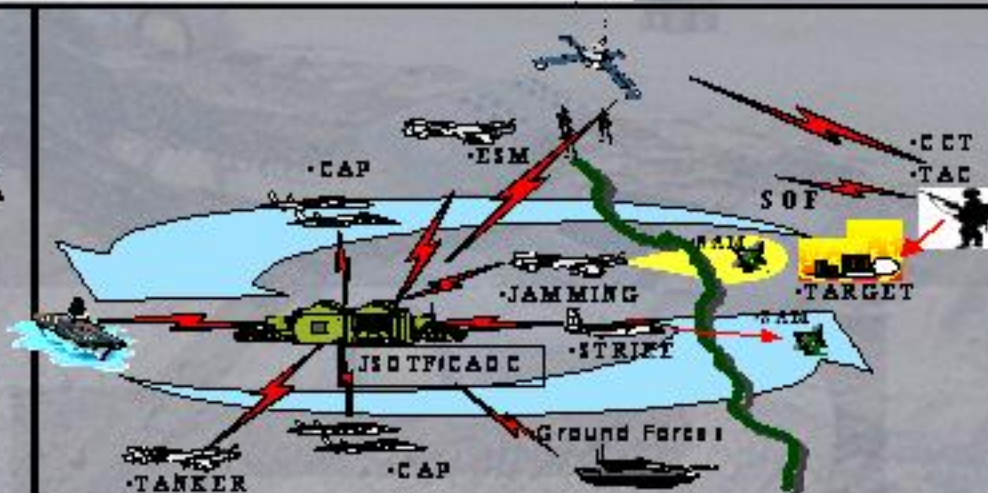
Operational Concept



Air Traffic Control – in and out of a tower setting



Terminal Attack Control



Mission Rehearsal



Special Operations Forces Air Ground Interface Simulator (SAGIS)



Acquisition Strategy

- The SOF Requirements Analysis, Prototyping, Training, Operations and Rehearsal (RAPTOR) contract through NLX, Inc. will be utilized for the integration of systems into the SAGIS (18 Month Contract Effort).**
- NLX will sub-contract for Initial Prototype “Fixed base” and “Deployable” simulators**
- Acquisition Strategy for Multiple Production Simulators - TBD**

Contract: NLX

Value: \$7-9M

RFP: 1QFY04

Award: 1QFY04



MH-47G/MH-60M Combat Mission Simulators



High-fidelity full motion flight simulator with Out-the-window scene supporting aircraft field-of-view. Mission Rehearsal environment operating on a Common Database. Correlated sensor simulation, and threat and environmental models. Common Avionics Architecture System (CAAS) configuration. DIS/HLA compliance. Desktop/Part task trainers for CAAS.



MH-47G/MH-60M Combat Mission Simulators



Description/Requirement

What We Have:

Currently there is no simulator which meets the requirements for conducting Mission Rehearsal using the MH-47G/MH-60M aircraft.

What We Need:

A training solution which provides the required fidelity to perform Mission Rehearsal using MH-47G/MH-60M aircraft.



MH-47G/MH-60M Combat Mission Simulators



Operational Concept

The Desk Top Trainer (DTT) will provide initial training support as well as a deployable currency/refresher training capability for all paging actions in the Multifunction Display (MFD) and Central Display Unit (CDU).

The Part Task Trainer (PTT) will provide integrated cockpit training for the CAAS cockpit relieving training time from the aircraft and CMS.

The CMS will provide full fidelity day, night and NVG training as well as the ability to conduct full mission rehearsal within the USSOCOM defined timelines.



MH-47G/MH-60M Combat Mission Simulators



Acquisition Strategy

- **Delivery Order under STOC**
- **MH-47G/MH-60M Training System Procurement**
- **Effort is to be completed within 30 months after contract award**

Contract: STOC

Value: \$75M

RFP: 3QFY03

**Contract: 1QFY04
Award**



AH/MH-6 Light Assault/Attack Reconfigurable CMS Phase II



Modify AH/MH-6 Light Assault/Attack Reconfigurable (LASAR) CMS Phase I simulator for DIS/HLA compliance (Interoperability within 160th SOAR(A)/USSOCOM), complete tactical environment for training and Mission Rehearsal, and provide unrestricted field of regard with simulated Night Vision Goggles. Incorporate Common Avionics Architecture System (CAAS) cockpit.



AH/MH-6 Light Assault/Attack Reconfigurable CMS Phase II



Description/Requirement

What We Have:

LASAR Phase I System which does not meet the requirements for conducting full Mission Rehearsal using the AH/MH-6 aircraft.

What We Need:

An upgrade to LASAR Phase I which provides the required fidelity to perform full Mission Rehearsal using AH/MH-6 aircraft.



AH/MH-6 Light Assault/Attack Reconfigurable CMS Phase II



Acquisition Strategy

- **Option Award Under Existing Contract or New Delivery Order under STOC**
- **Phase I as GFE**
- **Effort is to be completed within 24 months after contract award**

Contract: STOC

Value: \$9-12M

RFP: 1QFY06

CA: 2QFY06



Product Manager Air and Command Tactical Trainers



Develop, Field, and Sustain High Quality Airborne and Command Virtual Training Devices that Meet or Exceed our Warfighters' Requirements.





Additional Black Hawk Flight Simulators (ABHFS)



Develop and provide 3 additional high fidelity UH-60A/L flight simulators, one each for Fort Drum, Eastern Army National Guard Aviation Training Site (EAATS) and Western Army National Guard Aviation Training Site (WAATS) to train individual and crew tasks to standard



Additional Black Hawk Flight Simulators (ABHFS)



Description/Requirement

What We Have

**Existing Lift Simulator
Modernization Program
(LSMP) Simulators and
Software Baseline**

What We Need

**Three Additional High
Fidelity UH-60A/L Flight
Simulators**



Additional Black Hawk Flight Simulators (ABHFS)



Simulator Characteristics

- **High fidelity flight models and flight controls**
- **High Level Architecture (HLA)/Distributed Interactive Simulation (DIS) compliant**
- **Design basis aircraft avionics concurrency**
- **Cross-cockpit viewing**
- **Portable Flight Planning Software (PFPS) integration**
- **Semi Automated Forces (SAF) capability (Objective OneSAF)**
- **Site specific Instrument Flight Rules (IFR) terrain databases**
- **Training debrief capability**



Additional Black Hawk Flight Simulators (ABHFS)



Acquisition Strategy

**Competitive Virtual Domain PEO
STRI Omnibus Contract Award**

**LSMP Software Will be Provided
When Available to Support
Contract Execution**

Contract: STOC

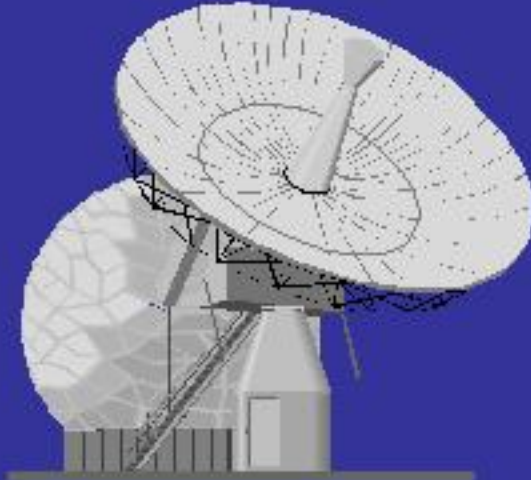
Value: \$37.5M

Award: 4QFY03

RFT: 30 MAC



SATCOM Principles Transformation Trainer (SPTT)



Provide a Defense Satellite Communication (SATCOM) Training Device to meet or exceed U.S. Army Signal School as well as the Objective Force Communication Training requirements. Trains Army (MOS 31S), Air Force, Navy & Marine Corps SATCOM Operators & Maintenance personnel. Computer based training device that emulates a SATCOM trainer networked to support specialized instruction.



SATCOM Principles Transformation Trainer (SPTT)



Description/Requirement

What We Have:

SPTT composed of 3 obsolete training suites. Two of the suites simulate equipment that is no longer in the U.S. Army inventory. Maintenance support has become a major problem due to obsolescence

What We Need:

A major upgrade of the SPTT to include the incorporation of the latest computer and simulator technology that simulates fundamental tasks required of the MOS 31S students



SATCOM Principles Transformation Trainer (SPTT)



Acquisition Strategy

**Front End Analysis to be performed
in FY04**

**Competitive Virtual Domain PEO
STRI Omnibus Contract (STOC)
Award**

Scope Includes R&D and Production

Contract: STOC

Value: \$10-20M

RFP: 4QFY04

CA: 1QFY05



Advanced Morse Mission Trainer (AMMT)



Provide a Morse Mission Training System to meet or exceed U.S. Army Intelligence School requirements. Trains Army (MOS 98H), Air Force, Navy & Marine Corps Morse Intercept Operators. Computer based training device that emulates the Common Remote System to support multi-mode collection training.



Advanced Morse Mission Trainer (AMMT)



Description/Requirement

What We Have:

Current Morse Mission Trainer (MMT) is an obsolete device that is not capable of simulating the full range of current intelligence collection activities. Current device is fast becoming logistically unsupportable.

What We Need:

A major upgrade of the AMMT to include the incorporation of the latest in computer and simulator technology that simulates the fundamental tasks required of the MOS 98H students



Advanced Morse Mission Trainer (AMMT)



Acquisition Strategy

**Front End Analysis to be Performed
in FY04 Will Establish Acquisition
Strategy**

**Anticipate Competitive Award
Under the PEO STRI Omnibus
Contract (STOC)**

Contract: STOC

Value: \$5-10M

RFP: 4QFY04

CA: 1QFY05



AH-64 Combat Mission Simulator (CMS) Follow-on



The AH64 CMS is a high fidelity Combat Mission Simulator (CMS) for the AH-64A attack helicopter. It is a full mission simulator which will permit the training and practice of a high percentage of aircraft and mission tasks, weapons delivery, normal and emergency procedures, sensor systems operations, etc.



AH-64 Combat Mission Simulator (CMS) Follow-on



Description/Requirement

What We Have:

The AH-64 Combat Mission Simulator provides transition and refresher training of experienced aviators in nap-of-the-earth (NOE) flight, masking/unmasking, engagement techniques, weapons systems operation and ASE.

What We Need:

More System Upgrades

The system enables Apache crews to develop tactical decision making skills during realistic mission scenarios in a high threat environment against interactive targets.



AH-64 Combat Mission Simulator (CMS) Follow-on



Acquisition Strategy

Existing Contract with Northrup-Grumman Mission Systems – CAE Link (NGMS-CAE) Provides Priced Options for Five Additional Upgrades.

**May Execute By Competitive PEO STRI Omnibus Contract (STOC)
Award Depending on Timeframe
of Program Execution**

Contract: NGMS-CAE or STOC

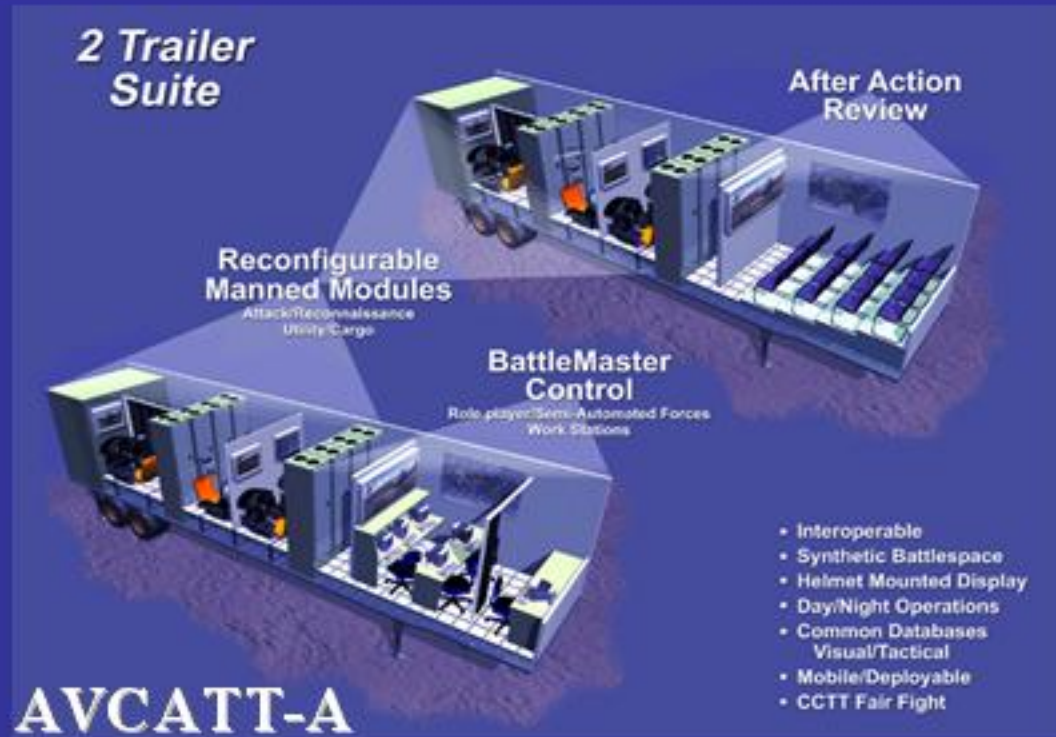
Value: \$ 4-16M

RFP: 4QFY03

**Option: 1QFY04
Award**



Aviation Combined Arms Tactical Trainer – Aviation Reconfigurable Manned Simulator



Combined arms collective training and mission rehearsal system operating in a simulated battlefield. Affordable and enhanced capability to train for joint air/ground arms operations. Supports institutional, organizational, and sustainment training for active and reserve component army aviation units worldwide.



AVCATT-A



Description/Requirement

What We Have:

- Baseline AVCATT-A System In Production (L3COM)
- Multiple Terrain Databases (TDBs)

What We Need:

- Expanded Capabilities



AVCATT-A



Expanded Capabilities

- **Unmanned Aerial Vehicle (UAV) to Aircraft Interface**
- **Intransit (aboard ship) Training Capability**
- **Classified Operations**
- **Simulated Crew Chief Functions (UH-60 and CH-47)**
- **Voice Directed SAF**
- **Motion Cueing for Manned Modules**
- **Fixed Facility**
- **Mobile Power Source**
- **Upgraded Helmets**
- **Terrain Databases**



AVCATT-A



Acquisition Strategy

**Subcontracting Opportunities May
exist with the AVCATT-A Prime
Manufacturer (L3COM)**



AVCATT-A Concurrency



Concurrency Description/Requirement

What We Have:

**Baseline AVCATT-A
System With:**

AH-64A Apache
AH-64D Longbow (Lot 4)
OH-58D Kiowa Warrior
(CDS 2)
UH-60A/L Blackhawk
CH-47D Chinook

What We Need:

Aircraft Concurrency

**Technical Concurrency
(Prevent Technical
Obsolescence)**



AVCATT-A Concurrency



Acquisition Strategy

**Acquisition Strategy Is Not Yet Established
and May Be Different For Different
Requirements**

**Subcontracting opportunities may exist with
the AVCATT-A Prime manufacturer L3
Communications (L3); and/or Government
May Initiate Separate Contracts for Specific
Capabilities.**



Product Manager Ground Combat Tactical Trainers



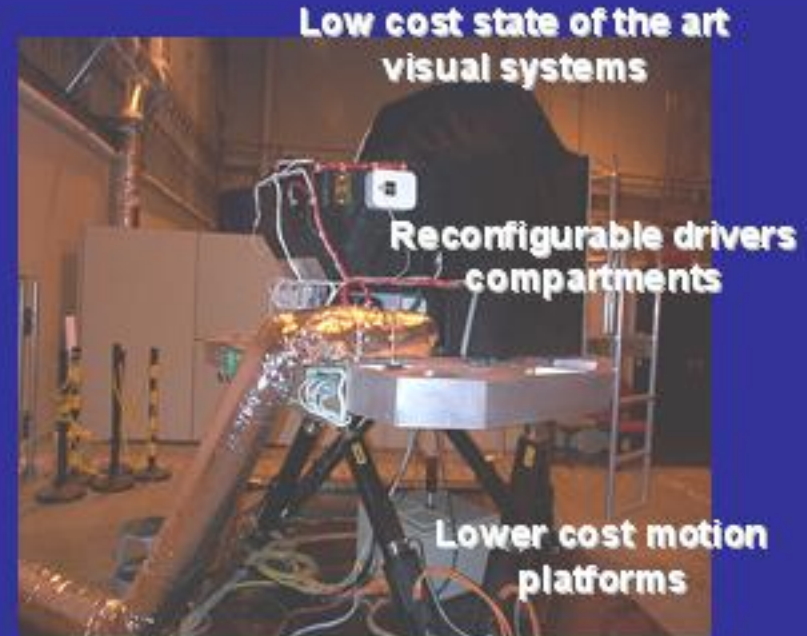
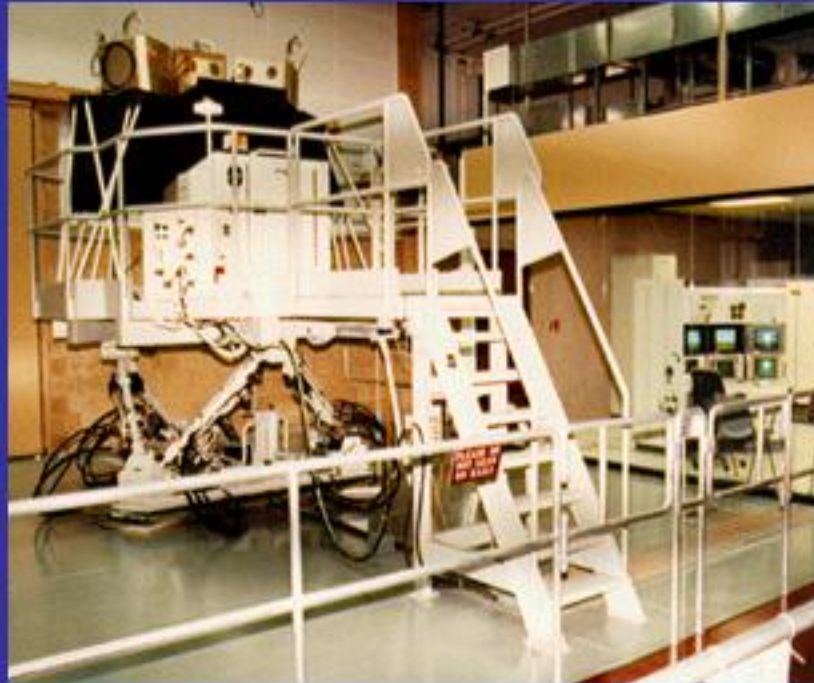
PM GCTT

***Develop, Field, and Sustain High Quality Ground Combat
Virtual Training Devices that Meet or Exceed our
Warfighters' Requirements.***





Common Driver Training System (CDTS)



Provide a driving training capability at the institutional and unit level. Leverage prior developed systems with possible interoperability with other training systems. Possibility of both no-motion and motion based simulators. Contract efforts may be consolidated or awarded as separate initiatives.



Common Driver Training System (CDTS)



Description/Requirement

WHAT WE HAVE

20 M1 and M1A2 SEP
tank driver trainers for
Ft. Knox, KY

17 wheeled vehicle driver
trainers for Ft. Leonard
Wood, MO.

WHAT WE NEED

Combined common driver
training acquisition:

- Leverage Economies of Scale
- Exploit Common Architecture
- Lower per system cost
- Support Wider Training Audience



Common Driver Training System (CDTS)



Acquisition Strategy

- **Dependant upon front end business case analysis to be performed in FY 03**
- **Competitive procurement (potential for multiple awards)**
- **80% commonality across platforms**

Contract: STOC

Value: \$15-150M

RFP: 1QFY04

CA: 2QFY04



Virtual Emergency Response Training System (VERTS)



Provide an exercise support capability for Emergency Responders and the Incident Command System (ICS) on military installations and for military responders that provide support to civil authorities. Contract efforts may be consolidated or awarded as separate initiatives.



Virtual Emergency Response Training System (VERTS)



Description/Requirement

WHAT WE HAVE

No current capability is available to train the military installation “First Responder” and “Incident Commander”.

WHAT WE NEED

Exercise Support Capability for “First Responders” and “Incident Commanders” on military installations and for the military first responders that provide support to civil authorities under the Federal Response Plan.



Virtual Emergency Response Training System (VERTS)

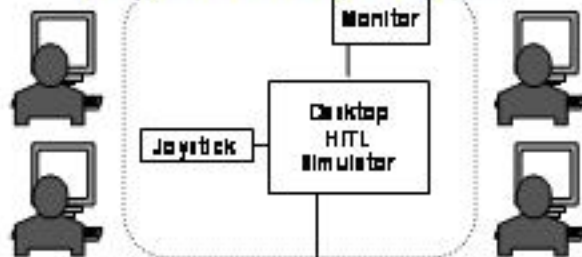


Reconfigurable Vehicle Simulator (x2)

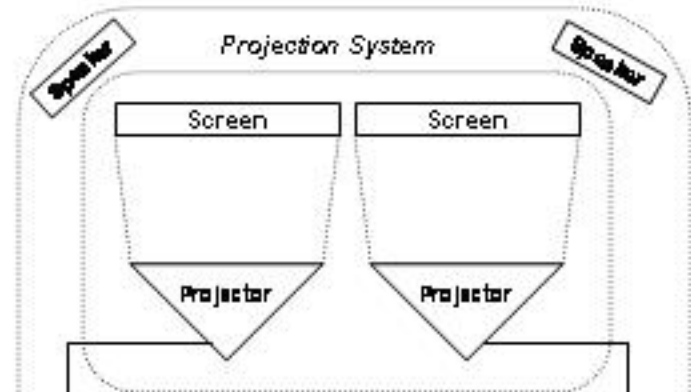
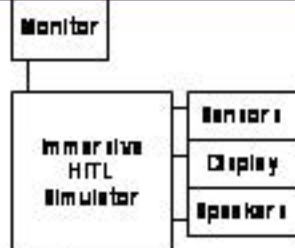
NBC
Survey Team



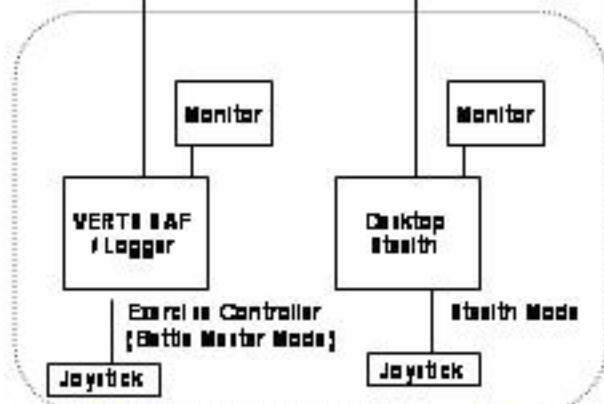
Desktop Station (x10)



Immersive Station (x2)



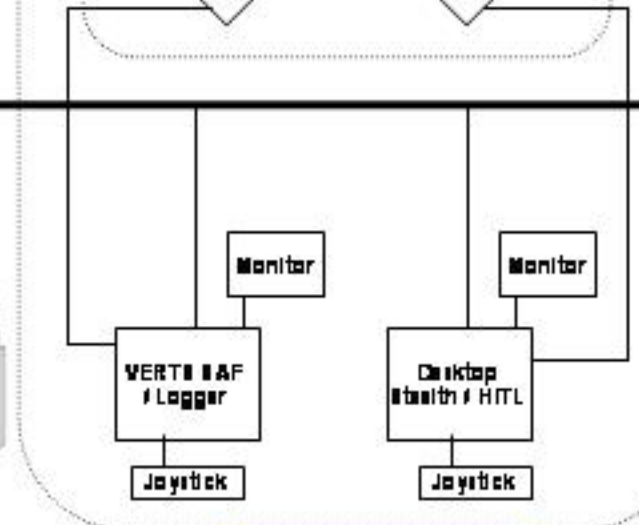
HLA/DIS 2.04 LAN
(GB Ethernet, UWB, etc)



Battlemaster Station



Medical
Simulator (x2)



AAR Station



Virtual Emergency Response Training System (VERTS)



Acquisition Strategy

- “First Responder” & “Incident Commander” training capability
- Homeland Defense mission training capability (Civil Support Teams (CST))
- Leverage and integrate the Integrated MOUT Training System (IMTS) efforts
- Leverage other Virtual Sims

Contract: TBD

Value: \$2M - 150M

RFP: TBD

CA: TBD



Basic Electronic Maintenance Trainer (BEMT)



Provide highly realistic training through training scenarios, which require the students to perform basic electronics tasks. Trainers consist of a computerized instructional device with the capability for computer-based instruction and hands-on practical exercise training.



Basic Electronic Maintenance Trainer (BEMT)



Description/Requirement

WHAT WE HAVE

Antiquated Electronic Maintenance Training Systems at:

- Ordnance Missile & Munitions Center/School, Redstone Arsenal, AL
- Maintenance Training Dept - Ft. Gordon, GA
- Transportation and Logistics Schools -Ft. Eustis, VA

WHAT WE NEED

State-of-the-Art Maintenance Training Systems and Techniques, Such as Computerized Instruction and Scoring



Basic Electronic Maintenance Trainer (BEMT)



Acquisition Strategy

- **Market Survey to Investigate Potential Sources**
- **Contracting Strategy Is Dependent Upon Results of Market Survey**

Contract: TBD

Value: < \$5M

RFP: 1QFY04

CA: 1QFY04



PM GCTT Future Initiatives



- **Establishment of the Virtual Training Device Working Group (VTDWG)**
- **Future Combat Systems (FCS) Training Aides, Devices & Simulations and Simulators (TADSS)**
- **Homeland Defense/ Security TADSS Review & Analysis**



--- Additional Information --- Project Discussion Opportunities



Purpose: Provide Forum For Additional Discussion
And Responses to Areas of Specific Interest

Location: PEO STRI/Research Commons; Room 4072
For Attendance Contact: Jane Knapp, (407)
384-3601

When: Friday, 13 June 2003; Times as Indicated

APM CCTT	0800-0900	APM STS	0900-1000
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PM ACTT	1000-1100	PM GCTT	1100-1200
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PM CATT Points of Contact



The Contracting Officer is POC for Programs in Solicitation Phase

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